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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CADUGAN, ERICA E

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 11/15/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

S.M.

Office Action Summary

Application No.

09/987,941

Applicant(s)

DAHL ET AL.

Examiner

Erica E Cadugan

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302 or, for responses after final rejection only, to (703) 872-9303. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Sweden on November 22, 2000. It is noted, however, that applicant has not filed a certified copy of the Swedish application as required by 35 U.S.C. 119(b).

Specification

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode

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of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

(c) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

5. The specification is objected to under 37 CFR 1.71 because it is unclear as described in the specification whether the thickness of the described cutting insert, i.e., a physical dimension of the cutting insert, is between 0.09 and 0.17 mm, or whether a chip produced by the described cutting insert, i.e., not a physical dimension of the cutting insert, is between 0.09 and 0.17 mm (p. 3, paragraph 0007 and page 4, line 4).

Claim Rejections - 35 USC § 112

6. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. See the above objection to the specification for a detailed explanation.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "0.05-0.5 mm/tooth" in line 4. There is insufficient antecedent basis for this limitation in the claim as no such tooth or teeth have been previously claimed. Note that it is further unclear via the "/tooth", i.e., "per tooth", limitation whether the

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claim is attempting to set forth plural teeth, noting that “per” seems to indicate plural teeth, but that only a singular insert (and no teeth specifically) have been previously claimed.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,655,860 (Oles).

Oles teaches the milling of a bi-metallic engine block comprising aluminum and cast iron (col. 4, lines 52-62). Milling conditions for one of the tests that yielded desirable results (e.g., no burr) included dry milling with a silicon nitride milling insert (col. 5, lines 45-65) at a speed of 3500 feet per minute, feeding at 0.008 inches per tooth, and at a depth of cut of 0.070 inches (col. 6, lines 16-29). Note that the presently-claimed metric ranges of claim 1 convert to the following English units:

1000-3000 m/min is equal to a range of between 3280.84 ft/min. and 9842.52 ft/min;

0.05-0.5 mm/tooth is equal to a range of between 0.001969 inches and 0.019685 inches;

0.2-2mm is equal to a range of between 0.007874 inches and 0.07874 inches.

Thus, Oles’ speed, feed, and depth of cut are within the claimed ranges.

Claim Rejections - 35 USC § 102/103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 2, as best understood, is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Pat. No. 5,655,860 (Oles) as applied to claim 1 above.

Oles teaches all aspects of the claimed invention as described in the above rejection based thereon. Oles is silent with respect to either a chip thickness produced by the insert or to a physical thickness of the insert. However, regarding the chip thickness produced by the insert, note that if all the other cutting conditions of Oles fall within the ranges claimed in the present invention, i.e., particularly depth of cut and cutting feed/tooth, inherently, the chips produced by Oles' insert will be produced with a thickness within the range set forth in claim 2. Note that if Oles' cutter cuts at a depth of cut and cutting feed/tooth that falls within the claimed ranges, the cutting edge is located at a location within the workpiece that is going to produce chips of thicknesses that are within the range of claim 2.

Alternatively, Oles is silent with respect to either the chip thickness produced by the insert or the physical thickness of the insert.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected a "chip thickness" in whatever range was desired or expedient to the end user, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

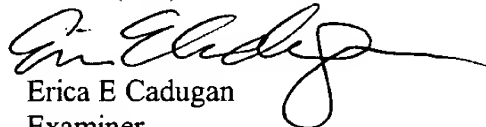
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The articles or printouts titled "Opportunities for Advanced Ceramics to Meet the Needs of the Industries of the Future", "Fix-Perfect Cast Iron Milling", "Trends that Drive Cutting Tool Development", and U.S. Pat. No.'s 5,382,273, 4,286,905, and 4,227,842 all teach milling with ceramics, and many teach similar cutting conditions to those of the present invention using a silicon carbide tool.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.


Erica E Cadugan
Examiner
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